Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Reallocation of the 216-220 MHz,	)	**WT Docket No. 02-08**
1390-1395 MHz, 1427-1429 MHz,	)	**RM-9267**
1429-1432 MHz, 1432-1435 MHz,	)	**RM-9692**
1670-1675 MHz, and 2385-2390 MHz	)	**RM-9797**
Government Transfer Bands	)	**RM-9854**
	)	**RM-9882**

INITIAL COMMENTS OF AMERICAN HOSPITAL ASSOCIATION TASK FORCE ON MEDICAL TELEMETRY

The American Hospital Association Task Force on Medical Telemetry (the "AHA Task Force" or "Task Force"), by its attorneys and pursuant to Section 1.415 of the Commission's Rules, hereby comments on the Notice of Proposed Rulemaking ("*Notice*") released February 6, 2002, FCC 02-15, in the above-captioned proceeding.[1] While the *Notice* requests comment regarding several different frequency bands, the Task Force has limited its comments to the proposals that affect the 1.4 GHz bands allocated, or adjacent, to the Wireless Medical Telemetry Service ("WMTS").[2] The AHA Task Force anticipates that additional and more detailed

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[1] Members of the AHA Task Force include representatives of hospitals, medical clinics, and other users of medical telemetry systems, manufacturers of medical telemetry devices, and representatives of trade associations involved in the development of medical devices and the delivery of health care. These comments reflect a consensus of the members of the Task Force; individual members may file separate comments that differ with particular Task Force recommendations.

[2] The 1.4 GHz bands at issue in this proceeding consist of 13 megahertz of spectrum at 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, and 1432-1435 MHz. Each of these band segments is of concern to the Task Force because each segment potentially either is allocated or adjacent to WMTS in whole or in part.

comment supporting specific technical limits to protect WMTS will be submitted by individual hospital or manufacturer members of the Task Force.

As the Commission is aware, the AHA Task Force acted as the principal non-government proponent for the creation of the WMTS as a licensed Part 95 service. In ET Docket No. 99-255, the Commission compiled a substantial record regarding the uses and need for a primary allocation for wireless medical telemetry devices in order to meet the advanced health care requirements of our nation's hospital patients. In establishing the WMTS in June 2000, the Commission initially allocated WMTS a total of fourteen megahertz of spectrum on a primary basis (608-614 MHz, 1395-1400 MHz and 1429-1432 MHz).[3] Less than six months later, however, the Commission initiated ET Docket No. 00-221 in which it opened up for reexamination the allocation of the 1429-1432 MHz band to WMTS.[4]

On January 2, 2002, the FCC issued the *Reallocation Report and Order* in ET Docket No. 00-221,[5] in which the Commission effectively divided the 1427-1432 MHz band into two separate, but related segments, 1427-1429.5 MHz ("the lower half") and 1429.5-1432 MHz ("the upper half"). The Commission reallocated the WMTS's primary spectrum from 1429-1432 MHz to the 1427-1429.5 MHz "lower half" band segment in order to provide WMTS more compatible spectrum neighbors (i.e., radio astronomy and telemetry).[6] The Commission retained a secondary allocation for telemetry in the 1427-1429.5 MHz "lower half" band. The

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[3] *Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service*, 15 FCC Rcd 11206, FCC 00-211, June 12, 2000 ("WMTS Order").

[4] *Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands*, 15 FCC Rcd 22657 (2000) ("Reallocation Notice").

[5] *Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands*, FCC 01-382, January 2, 2002 ("*Reallocation Report and Order*").

[6] *Id.* ¶57.

Commission also upgraded the pre-existing secondary allocation to telemetry in the 1429.5-1432 MHz "upper half" band to primary status.[7] The Commission deferred to the instant proceeding consideration of the service rules that would govern the use of the 1429.5-1432 MHz band by telemetry users (or some limited subgroup thereof), and also deferred the rules that might govern the geographic band swap (or "band flip") for the 1427-1432 MHz band (described below) that was proposed jointly by the AHA Task Force and Itron, Inc. (a representative of Utility Telemetry interests).[8]

I. IT IS CRITICAL TO THE SUCCESSFUL USE OF THE WMTS ALLOCATION AT 1.4 GHZ THAT THE COMMISSION PROVIDE WMTS ADEQUATE PROTECTION FROM INTERFERENCE ON BOTH AN ADJACENT CHANNEL AND ADJACENT GEOGRAPHIC AREA BASIS.

The AHA Task Force commends the Commission's unequivocal intent to adopt "restrictions on secondary telemetry at 1427-1429.5 MHz and primary telemetry at 1429.5-1432 MHz [that] are necessary to protect WMTS from harmful interference." *Notice* ¶ 56. Because WMTS is a low power service providing critical hospital patient monitoring functions that *demands* interference protection, this protection must be provided as to potential sources of interference from co-channel (secondary users in the same geographic area), adjacent channel, and adjacent geographic area users. WMTS devices are critical to monitoring patients' health; so hospitals simply cannot, and will not, tolerate sporadic interference from fixed or intermittent mobile operations using the same, or any adjacent, channels. If WMTS equipment cannot be adequately protected from such interference, the efficiency and benefits of WMTS equipment to

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[7] Prior to release of the *Reallocation Report and Order*, Section 90.259 of the Commission's rules permitted telemetry operations throughout the entire 1427-1435 MHz band subject to coordination with the Federal Advisory Subcommittee. The Commission retained the secondary status of all incumbent telemetry licensees in the upper half pending the adoption of final rules in the instant proceeding.

[8] *Reallocation Report and Order* ¶58.

patient safety that the Commission intended to foster in ET Docket No. 99-255 will not be fully realized.

To that end, AHA and Itron worked diligently in ET Docket No. 00-221 to prepare a proposal that would provide WMTS interference protection from proposed adjacent channel Utility Telemetry systems in the 1427-1432 MHz band.[9] Among the perceived benefits to WMTS under the AHA-Itron plan as initially submitted was the shift of WMTS from spectrum (1429-1432 MHz) that likely would be surrounded by the neighbors who are the least desirable to WMTS (that is, high power land mobiles licensed to a wide variety of operators so that the potential sources of interference to WMTS could not be easily identified) to spectrum at 1427-1429.5 MHz. In the latter spectrum, WMTS would be surrounded by more compatible neighbors, i.e., passive radioastronomy on the lower side and relatively low power, fixed telemetry services operated by an easily identifiable and limited number of utilities in each geographic area on the upper side.

The AHA Task Force members negotiated extensively with Itron to devise a carefully crafted exchange of spectrum that involved (a) a trade-off of .5 MHz of WMTS spectrum as part of the shift described above to a frequency band more compatible with WMTS in most areas of the country and (b) specific technical rules to ensure that Utility Telemetry systems neighboring WMTS would operate at tiered power levels, with the lowest power levels being used in the spectrum nearest the WMTS spectrum.

In WT Docket No. 02-08, however, the Commission has tentatively declined to adopt several of the components that made the AHA-Itron compromise plan attractive to WMTS users.

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[9] As mentioned previously, the AHA Task Force anticipates that individual WMTS manufacturers and hospitals will provide more detailed comment on the necessary technical limits to protect WMTS from harmful interference.

Specifically, although the Commission reduced the WMTS-primary allocation from 3 MHz to 2.5 MHz in ET Docket No. 00-221, the Commission has to date declined to limit the neighboring spectrum to the easily identifiable, fixed Utility Telemetry systems. Opening up the adjacent band to general telemetry use, including mobiles, would create significant equipment design concerns to WMTS manufacturers, since the sources of interference will be less easily identifiable, and thus the costs of avoiding susceptibility to interference could be increased. At the very least, the AHA urges the Commission to be extremely sensitive to the concerns of WMTS manufacturers in considering what entities should be eligible to use the adjacent channels (and the technical characteristics of that use) so that there is no cognizable threat of interference to the WMTS users of the 1.4 GHz band.

To that end, and consistent with the proposals in the AHA-Itron plan, AHA also believes that the Commission must limit new telemetry operations in the 1427-1432 MHz band to fixed operations only. Intermittent mobile operations from a wide variety of potential operators present the worst-case interference scenario for WMTS because of the practical impossibility of identifying sporadic mobile sources of interference. Moreover, any secondary telemetry use in the WMTS-primary spectrum also must be fixed rather than mobile (to minimize unidentifiable sporadic interference) and at power levels no higher than those authorized under the current Part 95 WMTS rules.

The AHA-Itron proposal also provided protection of incumbent utility telemetry systems operating in the 1427-1429 MHz band to avoid the need for such licensees to replace their systems, by establishing a geographical band flip, whereby seven areas in which the 2.5 MHz of WMTS-primary spectrum would be "flipped" to the "insides" of the 1427-1432 MHz band at 1429-1431.5 MHz, while utility telemetry would use the "outsides" at 1427-1429 MHz (where

incumbent UT systems operated) and 1431.5-1432 MHz (adjacent to potential high power land mobiles at 1432 MHz). As a result of this carefully designed allocation in the so-called "band-flip" areas, more of the 2.5 MHz allocation to WMTS in the band flip areas would be useful. Without such a shift to the "insides" within the 1427-1432 MHz band, WMTS licensees would need to devote at least .5 MHz of their reduced 2.5 MIIz as a guard band to protect against potentially higher power land mobile operations at 1432 MHz.

While proposing a band flip to accommodate the telemetry incumbents in the "lower half," the Commission has, however, declined to adopt even tentatively the AHA-Itron proposal of shifting of the WMTS-primary allocation in the band flip geographical areas to 1429-1431.5 MHz, a critical element of this band flip for the WMTS licensees. Instead, the Commission has suggested that WMTS licensees may be able to negotiate on a case-by-case basis with the non-WMTS licensee to obtain a useable 2.5 MHz of spectrum in these geographic areas, i.e., the WMTS licensees may rely on the AHA-Itron proposal to get what they really need. This places the use of this spectrum in those areas at significant risk, and further complicates the manufacturing and design process for equipment that might be used in those areas. Since there can be no assurance that in any given area a contractual arrangement will be made to obtain the use of a more compatible 2.5 MIIz of spectrum, most manufacturers will be unwilling to take the design risk and will, instead, be forced to assume that only the 2 MHz of useable spectrum available under the Commission's tentative conclusion will be available. Such uncertainty – and the potential that equipment designed for one group of channels may only have the use of 2 MHz out of the 2.5 MIIz allocated -- is not an acceptable approach for WMTS licensees. The AHA Task Force, therefore, urges the Commission to re-assess this proposal and instead adopt a band flip and other rules more in line with those that were proposed jointly by the

AHA Task Force and Itron in Docket 00-221, to better ensure that WMTS receives a more useful 2.5 MHz in the 1427-1432 MHz band.

II. THE COMMISSION MUST ESTABLISH FREQUENCY COORDINATION RULES THAT WILL ALLOW WMTS LICENSEES TO BE AWARE OF ALL CO-CHANNEL, ADJACENT CHANNEL, AND ADJACENT GEOGRAPHIC OPERATIONS

Under the Commission's proposals, WMTS and telemetry would be primary either in the 1427-1429.5 MHz or the 1429.5-1432 MHz band, depending upon the geographic location. The Commission also would allow telemetry to operate on a secondary basis in WMTS-primary spectrum within the 1427-1432 MHz band. Additionally, the FCC proposes to adopt service rules (a) for the 1390-1395 MHz band adjacent to WMTS spectrum at 1395-1400 MHz and (b) for the 1432-1435 MHz band adjacent to WMTS spectrum in the proposed seven geographic band flip areas.

As described above, in the event interference to WMTS devices occurs, hospitals require a relatively quick means of identifying the resources of interference. To accomplish this, the Commission must require that the WMTS frequency coordinator (the American Society of Healthcare Engineers or "ASHE") be made aware of all primary and secondary telemetry operations in the 1427-1432 MHz band and of all licensed operations in the 1390-1395 MHz and 1432-1435 MHz bands. The most efficient solution to this problem would be for the Commission to require all users of the 1427-1432 MHz band – WMTS or Telemetry licensees – to register their licensed facilities with ASHE pursuant to Section 95.1111 of the Commission's Rules. At the very least, the Commission also must require that any frequency coordinator authorized to coordinate the adjacent channel bands at 1390-1395 MHz, 1427-1432 MHz, and 1432-1435 MHz must make its coordination database available to ASHE on a real time basis.

Such information must be made available to ASHE in order that WMTS licensees can prevent potential interference and quickly resolve instances of actual interference to WMTS.

III. CONCLUSION

For the foregoing reasons, the AHA Task Force urges the Commission to take actions consistent with the views expressed herein.

Respectfully submitted,

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March 4, 2002